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(54) **REMOTE CORIOLIS FLOWMETER SIZING AND ORDERING SYSTEM**

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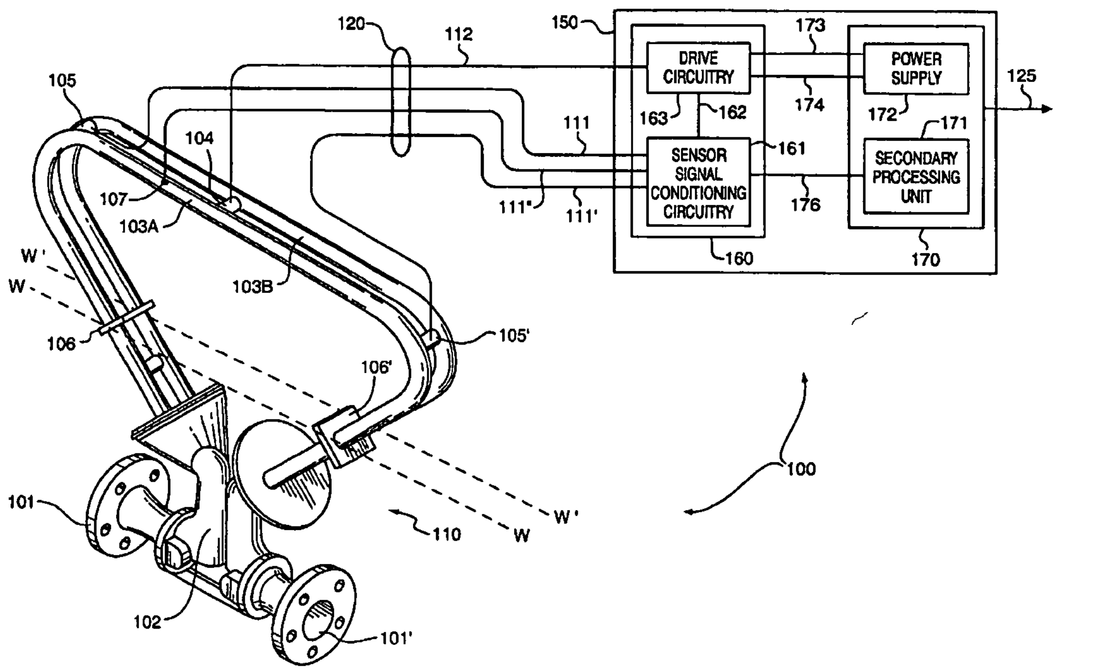
(57) **ABSTRACT**

A system that provides a remote ordering system for a Coriolis flowmeter. The system is provided by a server. The server begins by receiving input flow stream parameters from a remote client computer. The server then determines flowmeter parameters from the input flow stream parameters received from the remote client computer. The server then determines at least one model of flowmeter suitable for the flowmeter parameters. The suitable models of flowmeters are then transmitted to remoter computer where a customer may then place an order for one of the models suitable for the flowmeter parameters.



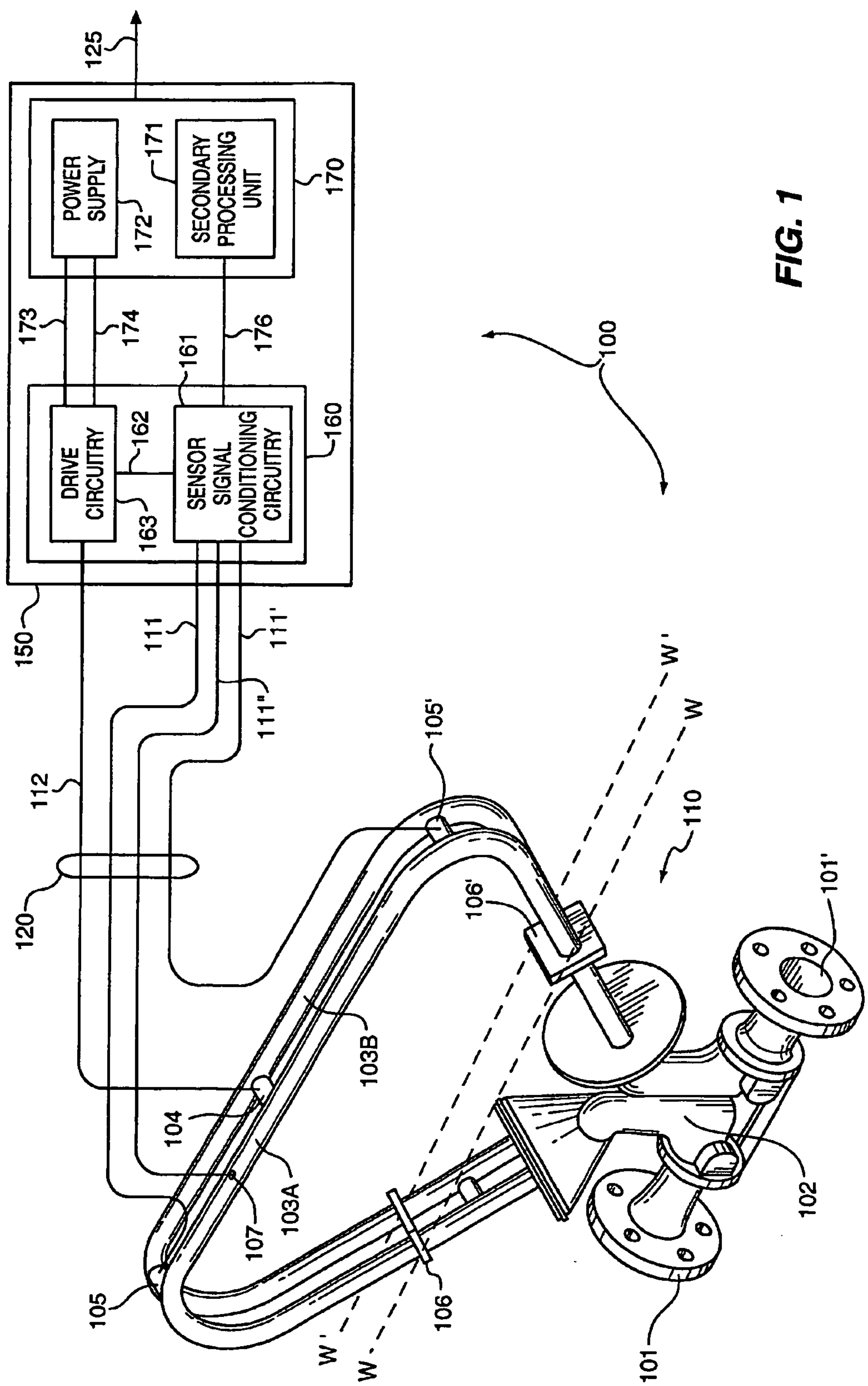

POWER SUPPLY
SECONDARY PROCESSING UNIT
DRIVE CIRCUITRY
SENSOR SIGNAL CONDITIONING CIRCUITRY
125
171
172
170
173
174
176
161
162
163
160
150
111
111'
111"
112
120
105'
106'
110
101'
103B
104
103A
107
102
105
106
101
100
W
W'

FIG. 1

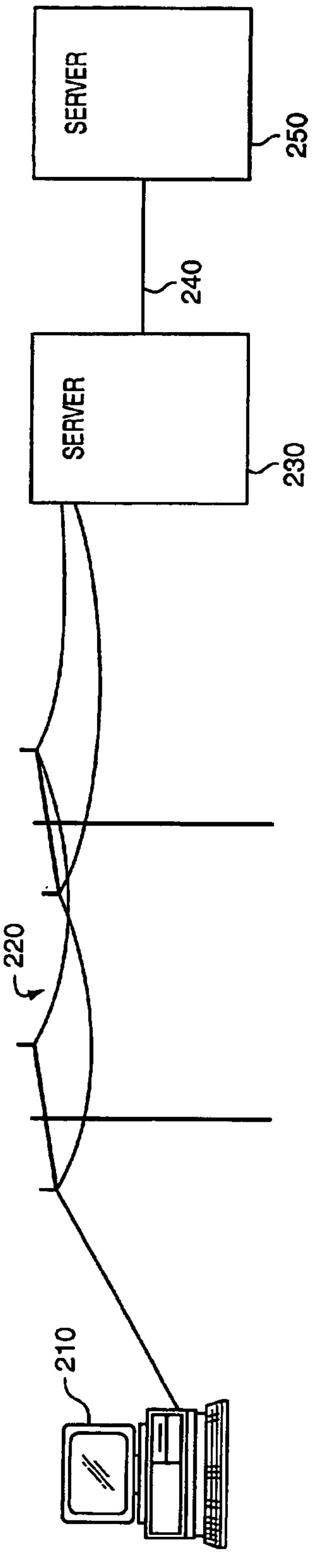

SERVER
250
240
SERVER
230
220
210

FIG. 2

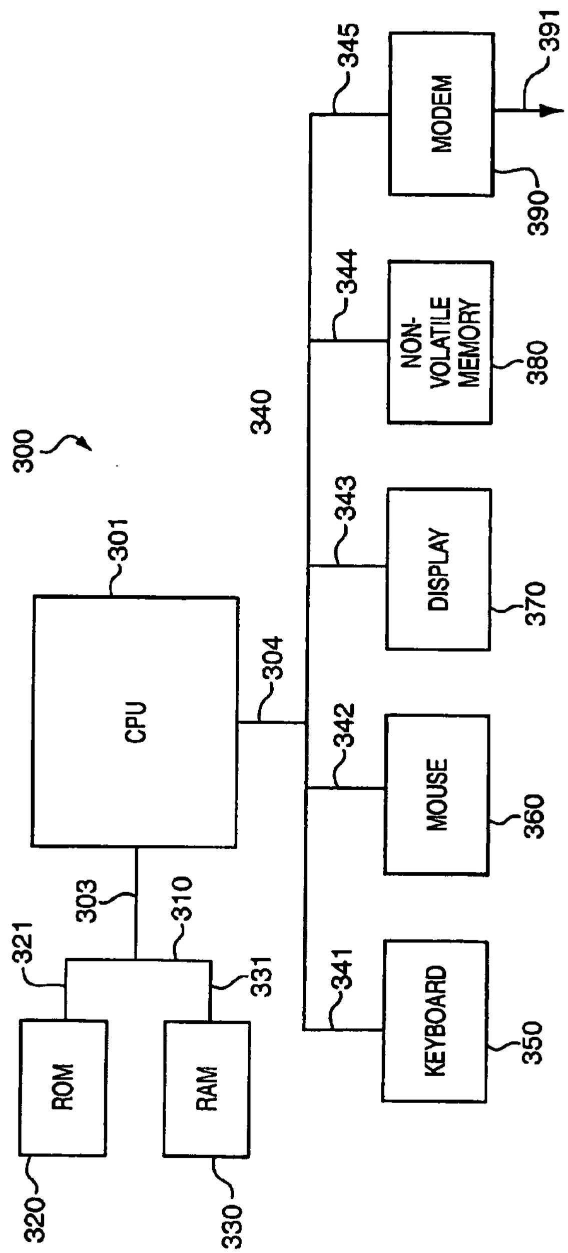

300
CPU
301
304
303
310
321
331
ROM
RAM
320
330
340
341
342
343
344
345
KEYBOARD
350
MOUSE
360
DISPLAY
370
NON-
VOLATILE
MEMORY
380
MODEM
390
391

FIG. 3

FIG. 4

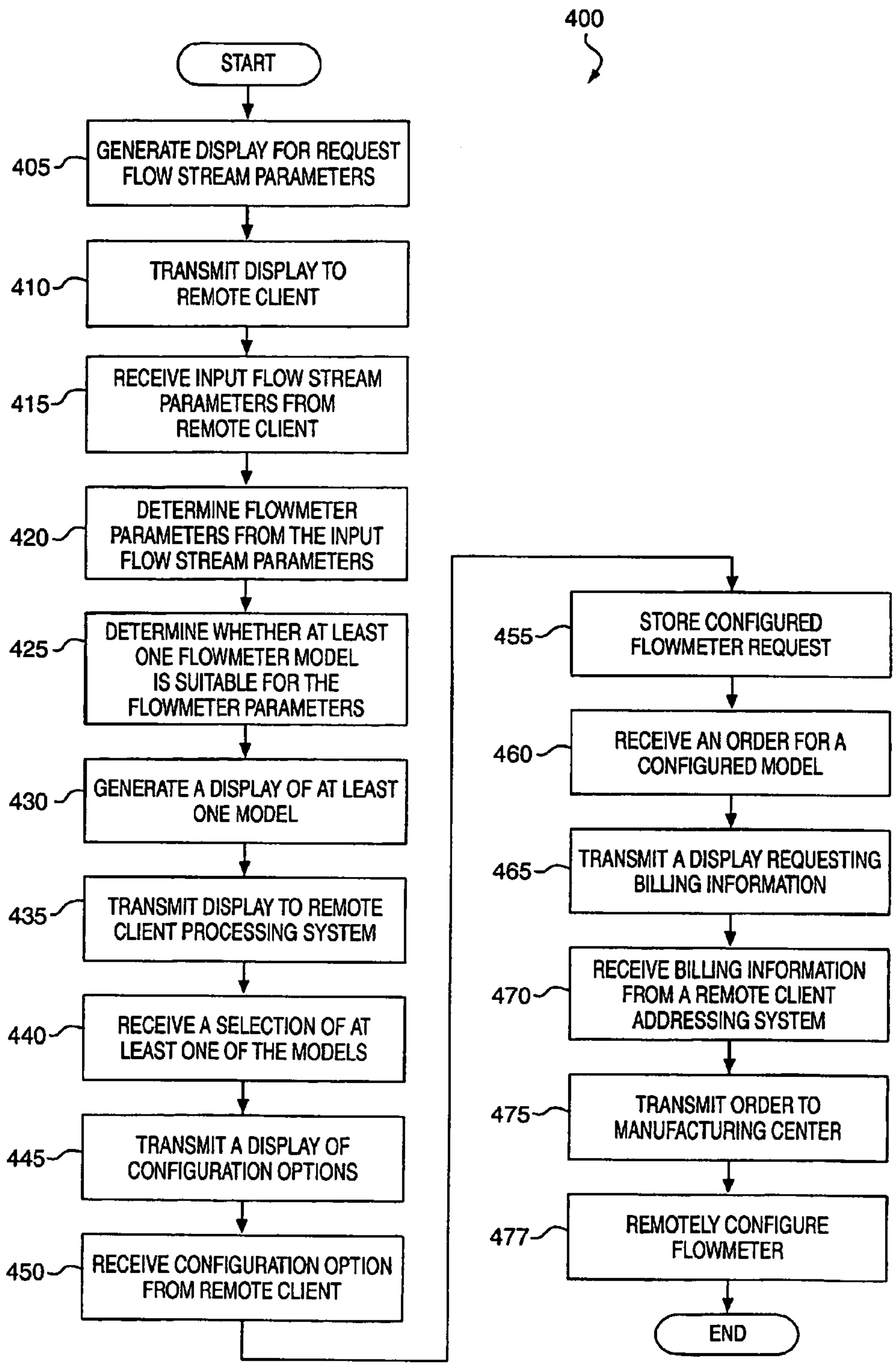


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FIG. 5

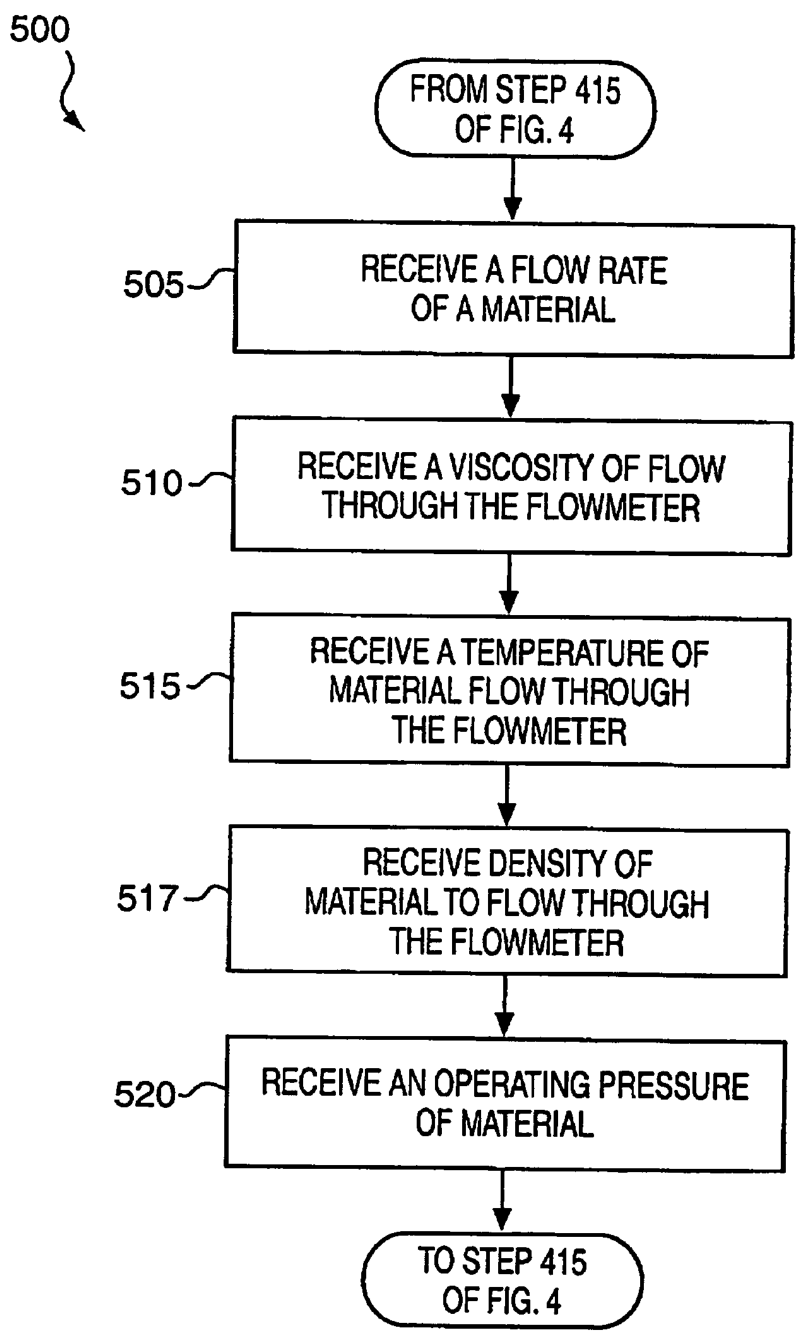

500
FROM STEP 415 OF FIG. 4
505
RECEIVE A FLOW RATE OF A MATERIAL
510
RECEIVE A VISCOSITY OF FLOW THROUGH THE FLOWMETER
515
RECEIVE A TEMPERATURE OF MATERIAL FLOW THROUGH THE FLOWMETER
517
RECEIVE DENSITY OF MATERIAL TO FLOW THROUGH THE FLOWMETER
520
RECEIVE AN OPERATING PRESSURE OF MATERIAL
TO STEP 415 OF FIG. 4

FIG. 6

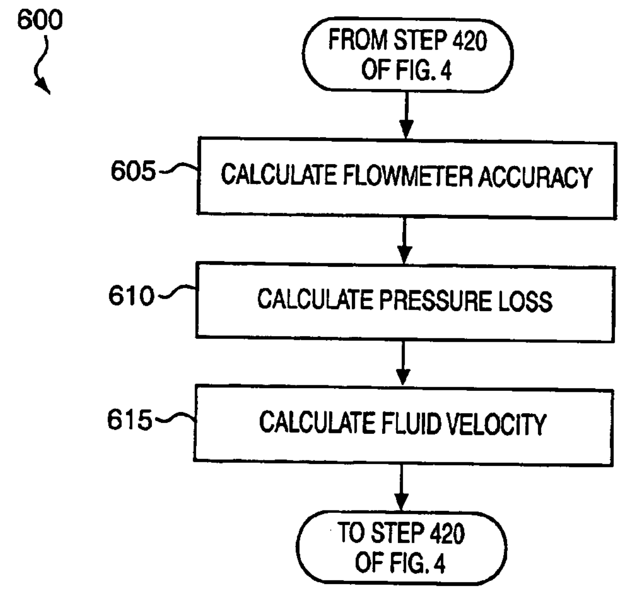
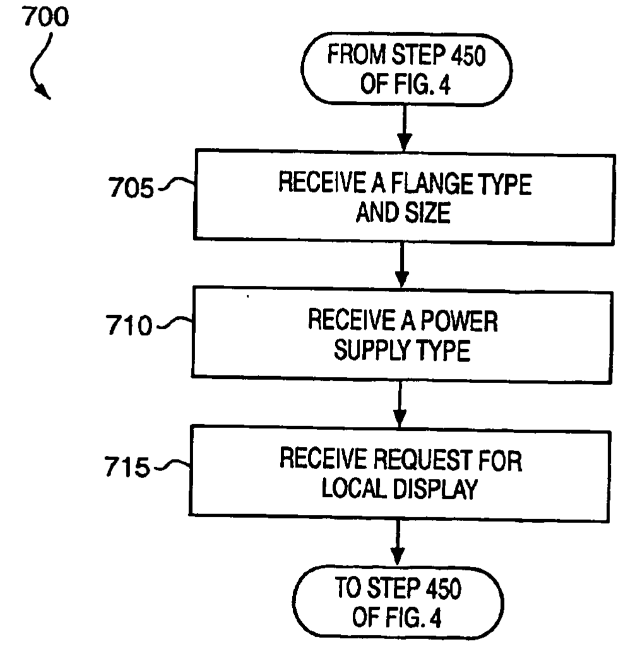

600
FROM STEP 420 OF FIG. 4
605
CALCULATE FLOWMETER ACCURACY
610
CALCULATE PRESSURE LOSS
615
CALCULATE FLUID VELOCITY
TO STEP 420 OF FIG. 4

FIG. 7


700
FROM STEP 450 OF FIG. 4
705
RECEIVE A FLANGE TYPE AND SIZE
710
RECEIVE A POWER SUPPLY TYPE
715
RECEIVE REQUEST FOR LOCAL DISPLAY
TO STEP 450 OF FIG. 4

REMOTE CORIOLIS FLOWMETER SIZING AND ORDERING SYSTEM

FIELD OF THE INVENTION

[0001] This invention relates to Coriolis mass flowmeters. More particularly, this invention relates to a computer system for receiving customer orders of Coriolis flowmeters. Still more particularly, this invention relates to a system executed by a server which a customer may access from a remote system and input desired flow parameters and be given choices of Coriolis mass flowmeters to select from to order.

Problem

[0002] A Coriolis mass flowmeter measures mass flow and other information of materials flowing through a conduit in the flowmeter. Exemplary Coriolis flowmeters are disclosed in U.S. Pat. No. 4,109,524 of Aug. 29,1978, U.S. Pat. No. 4,491,025 of Jan. 1, 1985, and Re. 31,450 of Feb. 11, 1982, all to J. E. Smith et al. These flowmeters have one or more conduits of straight or curved configuration. Each conduit configuration in a Coriolis mass flowmeter has a set of natural vibration modes, which may be of a simple bending, torsional or coupled type. Each conduit is driven to oscillate at resonance in one of these natural modes. Material flows into the flowmeter from a connected pipeline on the inlet side of the flowmeter, is directed through the conduit or conduits, and exits the flowmeter through the outlet side of the flowmeter. The material flowing through the pipeline may be gas, liquid, solid, and any combination of these three. The natural vibration modes of the vibrating, material filled system are defined in part by the combined mass of the conduits and the material flowing within the conduits.

[0003] When there is no flow through the flowmeter, all points along the conduit oscillate due to an applied driver force with identical phase or small initial fixed phase offset which can be corrected. As material begins to flow, Coriolis forces cause each point along the conduit to have a different phase. The phase on the inlet side of the conduit lags the driver, while the phase on the outlet side of the conduit leads the driver. Pick-off sensors on the conduit(s) produce sinusoidal signals representative of the motion of the conduit(s). Signals output from the pick-off sensors are processed to determine the phase difference between the pick-off sensors. The phase difference between two pick-off sensor signals is proportional to the mass flow rate of material through the conduit(s).

[0004] There are many different models of Coriolis flowmeters. For example, Micro Motion Inc. of Boulder, Colo. markets the following types of Coriolis flowmeters. It is a problem to determine a proper model of Coriolis flowmeter to be used in measuring mass flow rates through a pipeline.

[0005] In order to determine the flowmeter model of the proper size and parameters for a pipeline, flow stream parameters for the pipeline must be known. Flow stream parameters include material flow rate, material density, material viscosity, material temperature, material operating pressure. From these flow stream parameters, flowmeter parameters for a flowmeter to insert into the pipeline can be determined. Flowmeter parameters include meter accuracy, pressure loss, and material velocity. The flowmeter parameters and flow stream parameters are then used to determine the models of flowmeters that can be used to measure mass flow rate in the pipeline.

[0006] It is common to use software programs executed by a computer to determine the proper model. However, this requires that meter selection and sizing occur on premises where the computer executing the software resides. Heretofore, there has been no way for a user to remotely log onto a computer to remotely access sizing software and order a desired flowmeter without the intervention of a human operator.

Solution

[0007] The above and other problems are solved and an advance in the art is made by a remote sizing and ordering system for a Coriolis flowmeter in accordance with this invention. The present invention allows a user to log in via a network connection. The network connection may either be via a modem, via Internet, via intranet, or any other network connection. The user may then orders a flowmeterthat fits specification for the pipeline into which the flowmeter is to be inserted. This allows the user to order at any time of day and from anywhere in the world.

[0008] In accordance with this invention, a server computer stores and executes software that provides the remote sizing and ordering system of this invention. The server connects to a remote or client computer used by a user. The server then receives input flow stream parameters from a user. The input flow stream parameters are then used by the server to determine flowmeter parameters. The flowmeter parameters are then used by the server to determine whether at least one model of flowmeter suitable for the flowmeter parameters.

[0009] The server may then generate a display including the at least one model suitable for the flow meter parameters. The display is then transmitted to the remote computer and displayed to the customer. The user then selects one of the at least one models and transmits a request for the selection to the server. The server receives the request of the one of the at least one models.

[0010] The server may then transmit a display to the remote computer of configuration options. The user then selects the configurations options and transmits the selected options to the server. The server receives the configuration options from the user. Some of the configurations options include a process connection type, the process connection size, a power supply type which may include either Alternating Current (AC) or Direct Current (DC), and whether to have a local display.

[0011] The server may receive the following input flow stream parameters a flow rate of material to flow through the flowmeter, a density of material to flow through the flowmeter, a viscosity of material to flow through the flowmeter, a temperature of material to flow through said flowmeter, and an operating pressure of material to flow through said flowmeter. The server then may calculate the following flowmeter parameters from the input flow stream parameters. The flowmeter parameters include meter accuracy, pressure loss and fluid velocity.

[0012] After the user has configured a flowmeter, the flowmeter may be stored in an electronic shopping cart. The

customer may then place an order for a flowmeter from configured flowmeters in the shopping cart. The server then generates a message and transmits the order to a manufacturing department that produces and ships the flowmeter to the customer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The above and other features of this invention described in the Detailed Description below and the following drawings:

[0014] **FIG. 1** illustrating an exemplary Coriolis effect mass flowmeter;

[0015] **FIG. 2** illustrating a typical internet connection;

[0016] **FIG. 3** illustrating an exemplary processing system;

[0017] **FIG. 4** illustrating an exemplary process of this invention;

[0018] **FIG. 5** illustrating an exemplary process of receiving input stream parameters;

[0019] **FIG. 6** illustrating an exemplary process of determining flowmeter parameters; and

[0020] **FIG. 7** illustrating an exemplary process of receiving configuration options.

DETAILED DESCRIPTION

[0021] The present invention relates to a system for providing remote ordering and sizing for a Coriolis flowmeter. **FIG. 1** illustrates an exemplary Coriolis flowmeter that may provides a mass flow rate or other process parameter. Coriolis flowmeter **100** includes a flowmeter assembly **110** and meter electronics **150**. Meter electronics **150** are connected to a meter assembly **110** via leads **120** to provide for example, but not limited to, density, mass-flow-rate, volume-flow-rate, and totalized mass-flow rate information over a path **175**.

[0022] A Coriolis flowmeter structure is described although it should be apparent to those skilled in the art that the present invention could be practiced in conjunction with any apparatus having a vibrating conduit to measure properties of material flowing through the conduit. A second example of such an apparatus is a vibrating tube densitometer which does not have the additional measurement capability provided by a Coriolis mass flowmeters.

[0023] Meter assembly **110** includes a pair of flanges **101** and **101'**, manifold **102** and conduits **103A** and **103B**. Driver **104**, pick-off sensors **105** and **105'**, and temperature sensor **107** are connected to conduits **103A** and **103B**. Brace bars **106** and **106'** serve to define the axis W and W' about which each conduit oscillates.

[0024] When Coriolis flowmeter **100** is inserted into a pipeline system (not shown) which carries the process material that is being measured, material enters flowmeter assembly **110** through flange **101**, passes through manifold **102** where the material is directed to enter conduits **103A** and **103B**. The material then flows through conduits **103A** and **103B** and back into manifold **102** from where it exits meter assembly **110** through flange **101'**.

[0025] Conduits **103A** and **103B** are selected and appropriately mounted to the manifold **102** so as to have substantially the same mass distribution, moments of inertia and elastic modules about bending axes W-W and W'-W', respectively. The conduits **103A-103B** extend outwardly from the manifold in an essentially parallel fashion.

[0026] Conduits **103A-103B** are driven by driver **104** in opposite directions about their respective bending axes W and W' and at what is termed the first out of phase bending mode of the flowmeter. Driver **104** may comprise any one of many well known arrangements, such as a magnet mounted to conduit **103A** and an opposing coil mounted to conduit **103B** and through which an alternating current is passed for vibrating both conduits. A suitable drive signal is applied by meter electronics **150** to driver **104** via path **112**.

[0027] Pick-off sensors **105** and **105'** are affixed to at least one of conduits **103A** and **103B** on opposing ends of the conduit to measure oscillation of the conduits. As the conduit **103A-103B** vibrates, pick-off sensors **105-105'** generate a first pick-off signal and a second pick-off signal. The first and second pick-off signals are applied to paths **111** and **111'**. The driver velocity signal is applied to path **112**.

[0028] Temperature sensor **107** is affixed to at least one conduit **103A** and/or **103B**. Temperature sensor **107** measures the temperature of the conduit in order to modify equations for the temperature of the system. Path **111"** carries temperature signals from temperature sensor **107** to meter electronics **150**.

[0029] Meter electronics **150** receives the first and second pick-off signals appearing on paths **111** and **111'**, respectively. Meter electronics **150** processes the first and second velocity signals to compute the mass flow rate, the density, or other property of the material passing through flowmeter assembly **110**. This computed information is applied by meter electronics **150** over path **125** to a utilization means (not shown). It is known to those skilled in the art that Coriolis flowmeter **100** is quite similar in structure to a vibrating tube densitometer. Vibrating tube densitometers also utilize a vibrating tube through which fluid flows or, in the case of a sample-type densitometer, within which fluid is held. Vibrating tube densitometers also employ a drive system for exciting the conduit to vibrate. Vibrating tube densitometers typically utilize only single feedback signal since a density measurement requires only the measurement of frequency and a phase measurement is not necessary. The descriptions of the present invention herein apply equally to vibrating tube densitometers.

[0030] In Coriolis flowmeter **100**, the meter electronics **150** are physically divided into 2 components a host system **170** and a signal conditioner **160**. In conventional meter electronics, these components are housed in one unit.

[0031] Signal conditioner **160** includes drive circuitry **163** and sensor signal conditioning circuitry **161**. One skilled in the art will recognize that in actuality drive circuitry **163** and pick-off conditioning circuitry **161** may be separate analog circuits or may be separate functions provided by a digital signal processor or other digital components. Drive circuitry **163** generates a drive signal and applies an alternating drive current to driver **104** via path **112** of path **120**. The circuitry of the present invention may be included in drive circuitry **163** to provide an alternating current to driver **104**.

[0032] In actuality, path **112** is a first and a second lead. Drive circuitry **163** is communicatively connected to sensor signal conditioning circuitry **161** via path **162**. Path **162** allows drive circuitry to monitor the incoming pick-off signals to adjust the drive signal. Power to operate drive circuitry **163** and sensor signal conditioning circuitry **161** is supplied from host system **170** via a first wire **173** and a second wire **174**. First wire **173** and second wire **174** may be a part of a conventional 2-wire, 4-wire cable, or a portion of a multi-pair cable.

[0033] Sensor signal conditioning circuitry **161** receives input signals from first pick-off **105**, second pick-off **105'**, and temperature sensor **107** via paths **111, 111'** and **111"**. Sensor signal conditioning circuitry **161** determines the frequency of the pick-off signals and may also determine properties of a material flowing through conduits **103A-103B**. After the frequency of the input signals from pick-off sensors **105-105'** and properties of the material are determined, parameter signals carrying this information are generated and transmitted to a secondary processing unit **171** in host system **170** via path **176**. In a preferred embodiment, path **176** includes 2 leads. However, one skilled in the art will recognize that path **176** may be carried over first wire **173** and second wire **174** or over any other number of wires.

[0034] Host system **170** includes a power supply **172** and secondary processing unit **171**. Power supply **172** receives electricity from a source and converts the received electricity to the proper power needed by the system. Secondary processing unit **171** receives the parameter signals from pick-off signal conditioning circuitry **161** and then may perform processes needed to provide properties of the material flowing through conduits **103A-103B** needed by a user. Such properties may include but are riot limited to density, mass flow rate, and volumetric flow rate.

[0035] **FIG. 2** illustrates a typical internet connection which may be used to provide this invention. In **FIG. 2**, remote client computer system **210** is at a customer site. Remote client computer **210** uses a modem or other networking device to connect to server **230**. If a modem is used, remote client computer **210** connects to telephone network **210** which provides a dial up connection to server **230**. Server **230** is an Internet Service Provider (ISP) from remote client computer **210**. Server **230** connects via Internet **240** to Server **250**. One skilled in the art will appreciate that Internet **240** is a network of computers that are communicatively connected. Server **250** is a server of a provider of this invention that executes processes in accordance with this invention.

[0036] **FIG. 3** illustrates a block diagram of a processing system **300** that is exemplary of the computer systems such as remote client computer **210** and servers **250** and **240**. One skilled in the art will recognize that this is only exemplary and the exact configuration of processing system **300** in a computer may vary.

[0037] Processing system **300** includes central processing unit (CPU) **301** capable of executing instructions stored in a memory attached to CPU **301**. CPU **301** is attached to a memory bus **310** via path **303**. Memory bus **310** is connected to Read Only Memory (ROM) **320** via path **321** and to Random Access Memory (RAM) **330** via path **331**. ROM **320** stores instructions used by CPU **301** to control the functions performed by processing system **300**. RAM **330** stores instructions such as the operating system and currently running applications, to be executed by CPU **301** as well as the data needed to perform the instructions. CPU **301** reads and writes data to RAM **303** via path **303** and bus **310**.

[0038] CPU **301** is connected to I/O bus **340** via path **304**. I/O bus **340** connects CPU **301** to peripheral devices to transmit data between CPU **301** and the peripheral devices. In the preferred exemplary embodiment, the peripheral devices connected I/O bus **340** include keyboard **350**, mouse **360**, display **370**, nonvolatile memory (disk drive) **380**, and modem **390**. Keyboard **350** is connected to I/O bus **340** via path **341** and allows a user to input data. Mouse **360** is connected to I/O bus **340** via path **342** and allows a user to input data by moving mouse **160** to move an icon across display **370**. Display **370** is a video monitor and associated drivers connected to I/O bus **340** via path **343** to display images to a user. Nonvolatile memory **380** is a disk drive which can read and write data to a disk or other type of media to store the data for future use and is connected to I/O bus **340** via path **344**. Modem **390** is a device which facilitates a connection of processing system **300** to telephone line **391** for communication with other computers such as a server for an Internet connection. Modem **390** is connected to I/O bus **340** via path **345**.

[0039] Process **400** is a process executed by a server to provide remote sizing and order of Coriolis flowmeters. One skilled in the art will recognize that process **400** is a program written in a language such as Java or other language that facilitates communication between computers. Process **400** begins in step **405** by generating a display requesting flow stream parameters from a customer. One skilled in the art will recognize that the display may a screen or page with fields to fill in for a customer. In step **410**, the server transmits the display to the client remote computer system.

[0040] In step **415**, the server receives input flow stream parameters from a customer. The customer inputs the parameter into the remote computer which transmits the input flow stream parameters to the server.

[0041] **FIG. 5** illustrates a process **500** for receiving input flow stream parameters. Process **500** begins in step **505** by receiving a flow rate of a material to flow through the flowmeter from a remote computer. In step **510**, the server receives a viscosity of the material to flow through the flowmeter. The server then receives a temperature of material to flow through the flowmeter in step **515**. In step **517**, the server receives a density of the material to flow through the flowmeter. Process **500** ends in step **520** in which the server receives an operating pressure of the material to flow through the flowmeter. One skilled in the art will know that other flow stream parameters may be added, but this is left to those skilled in the art.

[0042] Referring back to **FIG. 4**, process **400** continues in step **420** by determining flowmeter parameters from the input flow stream parameters. **FIG. 6** illustrates a process **600** executed by the server to calculate flowmeter parameters.

[0043] Process **600** begins in step **605** by calculating flowmeter accuracy for the input flow stream parameters. In step **610**, the server calculates pressure loss of the flow across the flowmeter based upon the input flow stream parameters. In step **615**, process **600** as the server calculates fluid velocity from the input flow stream parameters.

[0044] Referring back to FIG. 4, process 400 continues by determining at least one model of flowmeter that has tolerances acceptable for the determined flowmeter parameters in step 425. A display included all of the determined models is generated in step 430 and is transmitted to the remote client system in step 435. In step 440, the server receive a selection of a one of the determined models.

[0045] In response to receiving the selection, the server transmit a display of configuration options to the remote client computer system in step 445. In step 450, the server receives configuration options from the customer via the remote client computer system. FIG. 7 illustrates an exemplary process 700 for receiving configuration options from the remote client computer.

[0046] Process 700 begins in step 705 by receiving a type and size of process connection. One skilled in the art will recognize that a process connection is a flange or other device used to connect the flowmeter into a pipeline. In step 710, the server receives a type of power supply to connect to the flowmeter. One skilled in the art will recognize that these may include either AC or DC power supply and may supply any different ranges of currents. These are left to designers of flowmeters. Process 700 ends in step 715 with the server receiving a request for a local display. One skilled in the art will recognize that any of this configurations may be left out or others added depending upon the designer of the system.

[0047] Referring back to FIG. 4, process 400 continues in step 455 by storing a configured flowmeter in an electronic shopping cart. An electronic shopping cart is a database that stores configured flowmeters for a customer to choose from when making an order. It should be noted that steps 405 through 455 may be repeated any number of times by a user from almost any step in process 400 to design many different flowmeters for different uses and/or to order multiple flowmeters.

[0048] In step 460, the server receives an order for a configured flowmeter. This may be done by the user selecting a one of the flowmeters stored in an electric shopping cart or may be received as the customer finishes configuring a flowmeter. In response to receiving an order, the server transmits a display requesting billing information from the customer in step 465. The request may be for a billing address, a credit card account or other form of creating and/or crediting an account.

[0049] In step 470, the server receives the billing information which is then stored for future use in billing. In step 475, the server transmits an order to a manufacturing department which will make the flowmeter and ship the flowmeter to the customer. The order may be transmitted in an e-mail message or other such manner that includes all of the configuration data for the flowmeter.

[0050] After the flowmeter is sent to the customer, the flowmeter may be remotely configured in step 477 by connecting a remote computer connected to the flowmeter to the server. Process 500 then ends.

[0051] The above is a exemplary embodiment of a remote Coriolis flowmeter sizing and ordering system in accordance with this invention. Those skilled in the art are expected to design alternative systems that infringe on this invention as set forth in the claims below either literally or through the doctrine of equivalents.

What is claimed is:

1. A method for providing remote ordering system for a Coriolis flowmeter comprising the steps of:

receiving input flow stream parameters from a user;

determining flowmeter parameters from said input flow stream parameters; and

determining whether at least one model of flowmeter is suitable for said flowmeter parameters.

2. The method of claim 1 further comprising the steps of:

displaying said at least one model of flowmeter; and

receiving a choice of a one of said at least one model.

3. The method of claim 2 further comprising the steps of:

receiving at least one configuration option from said user.

4. The method of claim 3 further comprising the steps of:

displaying configuration options to said user.

5. The method of claim 3 wherein said step of receiving said at least one configuration options comprises the step of:

receiving a process connection type to affix to said flowmeter.

6. The method of claim 5 wherein said step of receiving a flange type includes the step of:

receiving a process connection size for said process connection type.

7. The method of claim 3 wherein said step of receiving said at least one configuration option comprises the step of:

receiving a power supply type for said flowmeter.

8. The method of claim 7 wherein said step of receiving said power supply type comprises the step of:

receiving a request for an Alternating Current (AC) power supply.

9. The method of claim 7 wherein said step of receiving said power supply type comprises the step of:

receiving a request from an Direct Current (DC) power supply.

10. The method of claim 3 wherein said step of receiving said at least one configuration option comprises the step of:

receiving a request for a local display.

11. The method of claim 1 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a flow rate of material to flow through said flowmeter.

12. The method of claim 1 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a density of material to flow through said flowmeter.

13. The method of claim 1 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a viscosity of material to flow through said flowmeter.

14. The method of claim 1 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a temperature of material to flow through said flowmeter.

15. The method of claim 1 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving an operating pressure of material to flow through said flowmeter.

16. The method of claim 1 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a density of said material flowing through said flowmeter.

17. The method of claim 1 further comprising the step of:

displaying a request for said flow stream parameters to said user.

18. The method of claim 1 further comprising the steps of:

adding said selected flowmeter to an electronic shopping cart.

19. The method of claim 1 further comprising the step of:

receiving an order for a flowmeter of said model.

20. The method of claim 19 further comprising the step of:

transmitting said order to a manufacturing department.

21. The method of claim 20 wherein said step of transmitting comprises the steps of:

generating an e-mail of said order; and

transmitting said e-mail to said manufacturing department.

22. The method of claim 1 wherein said step of determining said flowmeter parameters comprises the step of:

calculating flowmeter accuracy.

23. The method of claim 1 wherein said step of determining said flowmeter parameters comprises the step of:

calculating pressure loss.

24. The method of claim 1 wherein said step of determining said flowmeter parameters comprises the step of:

calculating fluid velocity.

25. A product for providing remote ordering system for a Coriolis flowmeter via linked processing systems comprising:

instructions for directing a processing unit to:

receive input flow stream parameters from a remote processing system,

determine flowmeter parameters from said input flow stream parameters, and

determine at least one model of flowmeter suitable for said flowmeter parameters; and

media readable by said processing unit that stores said instructions.

26. The product of claim 25 wherein said instructions further comprise: instructions for directing said processing unit to:

generate a display of said at least one model of flowmeter, and

transmit said display to said remote processing system.

27. The product of claim 25 wherein said instructions further comprise:

instructions for directing said processing unit to:

receive a choice of a one of said at least one models from said remote processing system.

28. The product of claim 25 wherein said instructions further comprise:

instructions for directing said processing unit to:

receive at least one configuration option from said remote processing system.

29. The product of claim 28 wherein said instructions further comprise:

instructions for directing said processing unit to:

generate a display of configuration option s, and

transmit said display to said remote processing system.

30. The product of claim 28 wherein said instructions to receive said at least one configuration options comprises:

instructions for directing said processing unit to:

receive a flange type to affix to said flowmeter from said remote processing system.

31. The product of claim 30 wherein said instructions to receive a flange type comprise:

instructions for directing said processing unit to:

receive a flange size for said flange type.

32. The product of claim 28 wherein said instructions to receive said at least one configuration options comprises:

instructions for directing said processing unit to:

receive a power supply type for said flowmeter from said remote processing system.

33. The product of claim 32 wherein said instructions to receive said power supply type comprises:

instructions for directing said processing unit to

receive a request for an AC power supply.

34. The product of claim 32 wherein said instructions to receive said power supply type comprises:

instructions for directing said processing unit to:

receive a request from an DC power supply.

35. The product of claim 28 wherein said instructions to receive said at least one configuration options comprises:

instructions for directing said processing unit to:

receive a request for a local display.

36. The product of claim 25 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a flow rate of material to flow through said flowmeter from said remote processing system.

37. The product of claim 25 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a density of material to flow through said flowmeter from a remote processing system.

38. The product of claim 25 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a viscosity of material to flow through said flowmeter from said remote processing system.

39. The product of claim 25 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a temperature of material to flow through said flowmeter.

40. The product of claim 25 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive an operating pressure of material to flow through said flowmeter from said remote processing system.

41. The product of claim 25 wherein said instructions further comprise:

instructions for directing said processing unit to:

generate a display of a request for said flow stream parameters, and

transmit said display to said remote processing system.

42. The product of claim 25 wherein said instructions further comprise:

instructions for directing said processing unit to:

add said selected flowmeter to an electronic shopping cart.

43. The product of claim 25 wherein said instructions further comprise:

instructions for directing said processing unit to:

receive an order for a flowmeter of said model from said remote processing system.

44. The product of claim 43 wherein said instructions further comprise:

instructions for directing said processing unit to:

transmit said order to a manufacturing department.

45. The product of claim 44 wherein said instructions to transmit said order comprise:

instructions for directing said processing unit to:

generate an e-mail of said order, and

transmit said e-mail to said manufacturing department.

46. The product of claim 25 wherein said instructions to determine said flowmeter parameters comprise:

instructions to direct said processing to:

calculate flowmeter accuracy.

47. The product of claim 25 wherein said instructions to determine said flowmeter parameters comprise:

instructions to direct said processing to:

calculate pressure loss.

48. The product of claim 25 wherein said instructions to determine said flowmeter parameters comprise:

instructions to direct said processing unit to:

calculate fluid velocity.

49. A product for sizing a Coriolis flow meter comprising

instructions to direct a processing unit to:

calculate flowmeter accuracy from input flow stream parameters from a remote processing system,

calculate pressure loss from input flow stream parameters,

calculate fluid velocity,

determine a model of flowmeter that has tolerance wherein calculated flowmeter accuracy, pressure loss, and fluid velocity are within tolerances of said model of flowmeter; and

media readable by said processing unit that stores said instructions.

50. The product of claim 49 wherein said instructions further comprise:

instructions for directing said processing to:

receive input flow stream parameters from said remote processing system.

51. The product of claim 50 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a flow rate of material to flow through said flowmeter from said remote processing system.

52. The product of claim 50 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a density of material to flow through said flowmeter from a remote processing system.

53. The product of claim 50 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a viscosity of material to flow through said flowmeter from said remote processing system.

54. The product of claim 50 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive a temperature of material to flow through said flowmeter.

55. The product of claim 50 wherein said instructions to receive said input flow stream parameters comprise:

instructions for directing said processing unit to:

receive an operating pressure of material to flow through said flowmeter from said remote processing system.

56. A method for sizing a Coriolis flowmeter comprising the steps of:

calculating flowmeter accuracy from input flow stream parameters received from a remote user;

calculating pressure loss from input flow stream parameters;

calculating fluid velocity; and

determining a model of flowmeter that has tolerance wherein calculated flowmeter accuracy, pressure loss, and fluid velocity are within tolerances of said model of flowmeter.

57. The method of claim 56 further comprising the step of:

receiving input flow stream parameters from a remote processing system.

58. The method of claim 57 said step of receiving said input flow stream parameters comprises the step of:

receiving a flow rate of material to flow through said flowmeter from said remote processing system.

59. The method of claim 58 wherein in the step of receiving said input flow stream parameters comprise the step of:

receiving a density of material to flow through said flowmeter from a remote processing system.

60. The method of claim 58 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a viscosity of material to flow through said flowmeter from said remote processing system.

61. The method of claim 58 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving a temperature of material to flow through said flowmeter.

62. The method of claim 58 wherein said step of receiving said input flow stream parameters comprises the step of:

receiving an operating pressure of material to flow through said flowmeter from said remote processing system.

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